

DISTROHOPPER

We've tapped GCHQ's communications to find out what's going on in distro land.

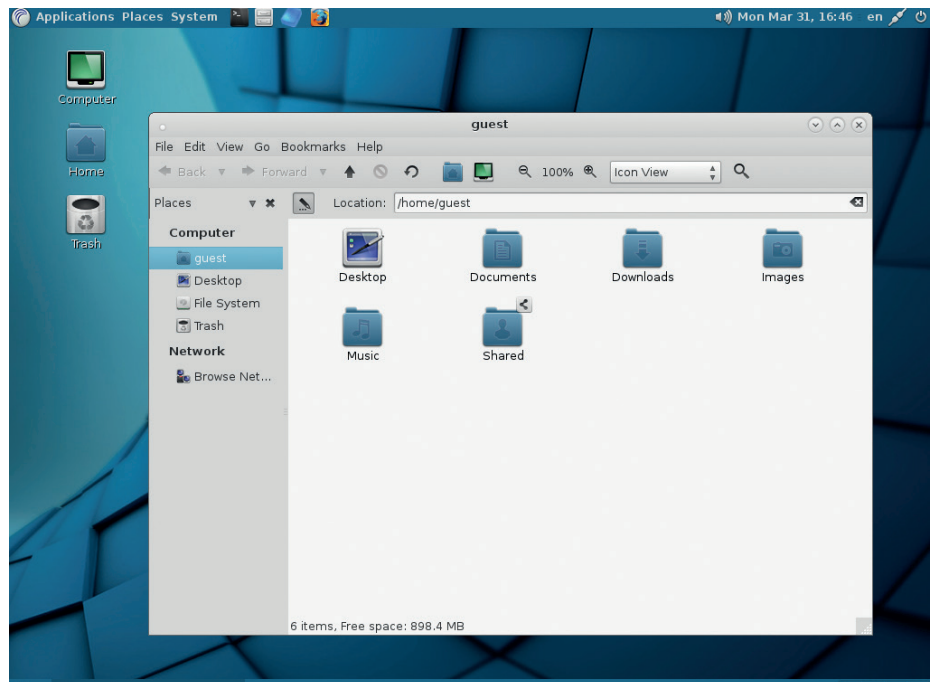
Porteus

Lightning-fast live Linux.

Porteus is a distribution designed for running directly off a USB stick. Big deal – almost every distribution can do that these days, so you may wonder if there's still room for a distro like Porteus.

However, there's plenty that's unusual about it. Porteus doesn't have a download link like you may expect, but a build service where you can customise your own version of Porteus. You can select things like the desktop environment, the web browser and word processor, and in the Advanced options you can set things like the system passwords and boot behaviour.

The second unusual thing about Porteus is how quickly it boots. On our test system, Porteus Mate got from Grub to the desktop in under 10 seconds, and this was in a virtual machine. The VM was allocated two cores of the i7 processor, but to put it into context, OpenSuse took just over a minute. This speed is incredible for a live distro. We ran the test again with the KDE version of Porteus, and even with the heavyweight



Porteus Kiosk has a bounty scheme where you can donate money towards certain features.

distro, it took just 15 seconds. On the down side there is quite a limited choice for the applications you can install, and there's little else other than those you select in the build system. This means that Porteus is

targeted very firmly at people who want a minimal live distro. Of course, this isn't really a problem, because there are loads of alternative options for people who want a heavyweight live desktop.

Kali 1.0.6

Hindu Goddess and pen-tester's best friend.

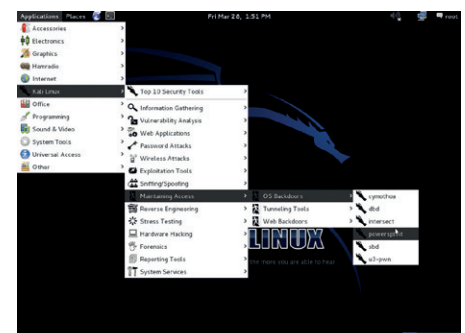
Kali Linux is undoubtedly the premiere penetration testing Linux distro. It's packed full of all manner of security-focused software, such as the Metasploit Framework. It's also got a lot of software that is not usually thought of as security focused, but has its place in the hacker's arsenal, such as the Arduino IDE.

Much of the security software is command line-based, but the developers have still included it in the applications menu to make it easy to find. When you click on the menu item, it opens a terminal window

and outputs the help from that command. It's a nice way of doing things that combines the power of the command line with the discoverability of a graphical system, and is a trick that quite a few other distros would do well to learn.

In addition to 32- and 64-bit PCs, there are builds available for Amazon Machine Images (AMI), Google's Compute Engine, and nine different ARM systems (including the Raspberry Pi).

Finally, we can't help but wonder if the artwork in Kali has been deliberately



If you're not a security expert, browsing the Kali menu can be an eye-opening experience.

designed to make it look edgy. The stylised dragon on the desktop seems to be there to remind you that the software running is the digital equivalent of a private ninja army.

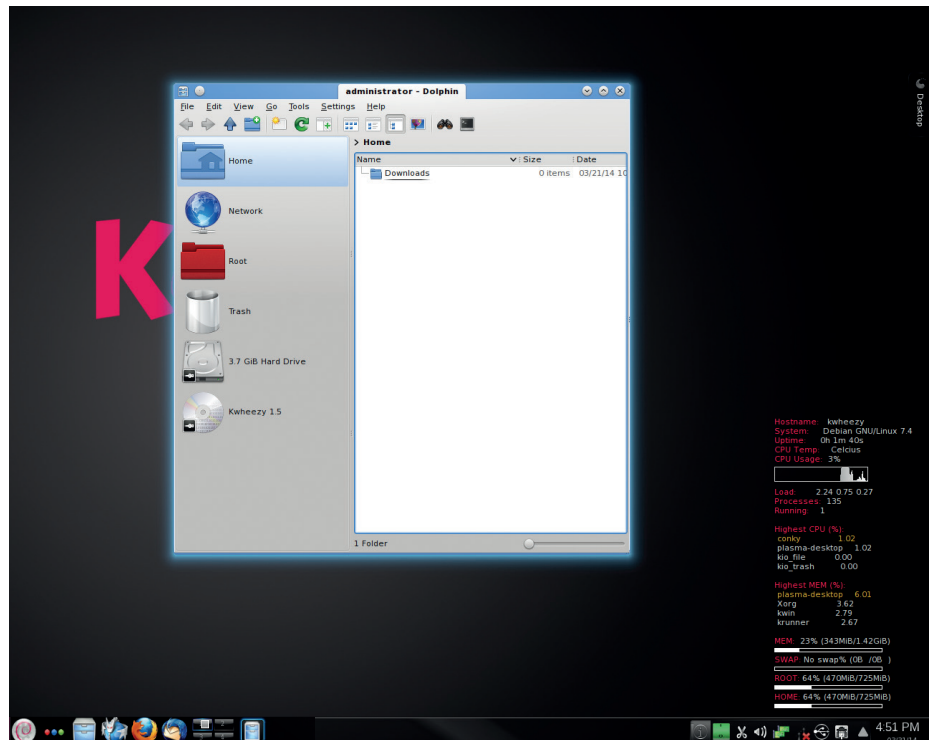
KWheezy

Can Debian look good with KDE?

We call this section Distrohopper, and we talk about the different distros we try out. However, what really constitutes a Linux distribution as opposed to a mere respin? It's a complicated question, and Kweezy is a perfect example of why. It's based on Debian 7 (Wheezy) with KDE. It does have its own repositories, but these only hold a few pieces that aren't in mainline Debian.

However, it would be a mistake to think that just because it's not a standalone distro, it doesn't have any value. The Kweezy website describes it as 'A well configured Debian KDE installer', and this is probably the best way to think about it. Once it's up and running, what you have is just a Debian system with the Kweezy settings, but it can be difficult to set up KDE well, so in terms of effort, it's actually much more than that.

The download is 4GB, and so the distro is bundled full of software. For instance, there are two full office suites (LibreOffice and Calligra). This would be annoying if you were installing it on a machine with limited hard drive space, but as long as you know what you're getting, choice is good. The extra software comprises a few things that aren't



The KDE setting are much improved from the defaults, but the dreaded blue glow remains.

in Debian (such as Firefox), and a small collection of Kweezy-specific tools for changing settings such as the keyboard or applications started on bootup.

There are, frankly, too many distros with KDE that just use the unattractive default settings of the desktop and don't unleash its

full power. Although Kweezy isn't fully to our tastes – there's a bit too much Debian pink for our tastes, and it doesn't have the best-looking KDE desktop – we welcome an effort to add a bit of glamour to this powerful desktop. KDE is crying out for customisation, so bravo Kweezy!

NixOS And now for something completely different

Nix is a package manager, and it's the basis for NixOS. Not many distros tout their package manager as their best feature, but then there isn't another package manager quite like Nix. It's a little hard to explain, so bear with us.

Firstly, packages are written in a functional language that describes how to compile the software and where to download it. When you install a package, it compiles it and places it in a new directory in `/nix`. This directory is given a name generated by a hash of all the inputs to the compilation (including the source code and the compiler options).

New versions of packages don't automatically overwrite the older versions, so multiple versions can quite happily co-exist on the same system – so too can multiple versions of the same package compiled with different options. You can roll back changes that haven't played out as expected, and even choose to boot into different versions of the OS from Grub. You can remove older versions to save space, but it isn't necessary, and can be done after the newer version has been thoroughly tested.

Equally intriguing is the way that the package files for different versions detail all the information

about how to build a file, but don't include the actual source files themselves (these can be fetched from upstream sources as described in the package file).

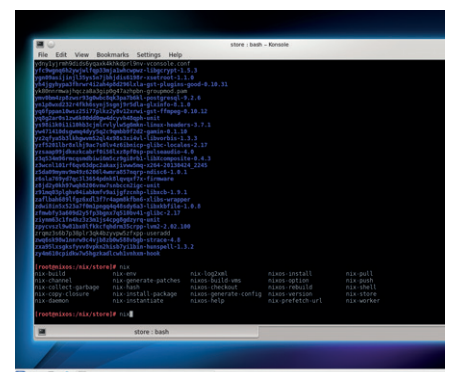
As well as being able to install packages, Nix enables you to specify in a declarative language a state that you want. For example, you could state that you want an SSH server running and accessible. The package manager would then download and compile everything as necessary, and set this up.

There are a couple of useful effects of this. It's very easy to deploy a custom version of NixOS with specially configured packages across a number of machines. Although it's yet to see wide-spread adoption, it definitely has potential as a cloud OS because of this. In fact, there are some tools to make this easy.

To ease the load of compiling everything from scratch, there's a NixOS repository, which holds pre-compiled versions of particular software. When you go to install software, if there's a pre-compiled version with the same options you want then the package manager will download that; otherwise, it will compile the software from scratch.

We Like NixOS, and wish the project well.

However, at this stage, there are too few packages available for us to recommend it for most users. Tinkerers looking for a new challenge who aren't afraid of getting their hands a little dirty will find NixOS an intriguing project with lots of potential.



We like Nix – it's a revolutionary package manager, but is the world ready for a package management revolution?